I claim:

1. A method, wherein a composition comprising HA, having an average molecular weight of not less than 2 X 10^5 Daltons, and a pharmaceutically acceptable carrier is administered into the bladder of an animal in an amount effective to prevent radiation cystitis caused by radiotherapy of the bladder area.

2. The method of claim 1, wherein the molecular weight range of the HA is between about 2 X 10^5 and about 3.1 X 10^6 Daltons.

3. The method of claim 1 or 2, wherein the amount of the HA is between about 5 mg and about 1000 mg.

4. The method of any one of claims 1 to 3, wherein the HA is administered in between about 10 ml and about 500 ml of the pharmaceutically acceptable carrier.

5. The method of any one of claims 1 to 4, wherein the HA and the pharmaceutically acceptable carrier are administered prior to a radiotherapy treatment.

6. The method of claim 5, wherein the HA and the pharmaceutically acceptable carrier are administered about 1 minute to about 4 hours prior to the radiotherapy treatment.

7. The method of claim 5 or 6, wherein the HA and the pharmaceutically acceptable carrier remain in the bladder for about 1 minute to about 4 hours prior to the radiotherapy treatment.

8. The method of any one of claims 1 to 7, wherein the radiotherapy is for the treatment of a cancer selected from the group consisting of bladder cancer, prostate cancer, rectal cancer, uterine cancer and cervical cancer.

9. The method of claim 8, wherein the radiotherapy is for the treatment of prostate cancer.

10. A method, wherein a composition comprising HA, having an average molecular weight of not less than 2 X 10^5 Daltons, and a pharmaceutically acceptable carrier is administered into the bladder of an animal in an amount effective to reduce radiation cystitis caused by radiotherapy of the bladder area.

11. The method of claim 10, wherein the average molecular weight of the HA is between about 2 X 10^5 and about 3.1 X 10^6 Daltons.

12. The method of claim 10 or 11, wherein the amount of HA is between about 5 mg and about 1000 mg.

13. The method of any one of claims 10 to 12, wherein the HA is administered in between about 10 ml and about 500 ml of the pharmaceutically acceptable carrier.

14. The method of any one of claims 10 to 13, wherein the HA and the pharmaceutically acceptable carrier are administered prior to a radiotherapy treatment.

15. The method of claim 14, wherein the HA and the pharmaceutically acceptable carrier are administered about 1 minute to about 4 hours prior to the radiotherapy treatment.

16. The method of claim 14 or 15, wherein the HA and the pharmaceutically acceptable carrier remain in the bladder for about 1 minute to about 4 hours prior to the radiotherapy treatment.

17. The method of any one of claims 10 to 16, wherein the radiotherapy is for the treatment of a cancer selected from the group

consisting of bladder cancer, prostate cancer, rectal cancer, uterine cancer and cervical cancer.

18. The method of claim 17, wherein the radiotherapy is for the treatment of prostate cancer.

19. A method, wherein a composition comprising HA, having an average molecular weight of not less than 2 X 10^5 Daltons, and a pharmaceutically acceptable carrier is administered into the bladder of an animal in an amount effective to treat radiation cystitis subsequent to a course of radiotherapy treatments of the bladder area.

20. The method of claim 19, wherein the molecular weight range of the HA is between about 2 X 10^5 and about 3.1 X 10^6 Daltons.

21. The method of claim 19 or 20, wherein the amount of the HA is between about 5 mg and about 1000 mg.

22. The method of any one of claims 19 to 21, wherein the HA is administered in between about 10 ml and about 500 ml of the pharmaceutically acceptable carrier.

23. The method of any one of claims 19 to 22, wherein the HA and the pharmaceutically acceptable carrier remain in the bladder for about 1 minute to about 4 hours.

24. The method of any one of claims 19 to 23, wherein the radiotherapy is for the treatment of a cancer selected from the group consisting of bladder cancer, prostate cancer, rectal cancer, uterine cancer and cervical cancer.

25. The method of claim 24, wherein the radiotherapy is for the treatment of prostate cancer.